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SOME COMMENTS ON SPECIFIC OPHTHALMIA IN THE HORSE*

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I am very grateful to the officers of the Central Veterinary Society for giving me this opportunity of addressing you on a subject which I hope will produce a discussion from which I and many others will learn something. I have chosen this subject mainly for two reasons: one is that during the last 20 years I have seen a few cases almost every year; the other that one seldom sees or hears much reference to it.

Specific ophthalmia is an inflammation of the eye, sudden in onset and characterised by recurrence. The condition has been recognised for centuries. In my experience it is of seasonal occurrence, but that is probably because by far the greater part of my equine practice is of a seasonal nature—in May, June and July. Another noticeable point is that, with few exceptions, it has been met with in horses that have travelled considerably—from the Argentine, the U.S.A. and India. It is reputed to be less common than it was, but that may be only relative to the fact that horses are less common than they were.

AETIOLOGY.—The occurrence of the condition has been attributed to a variety of causes. Some observers considered that the average interval between attacks was a month and thus it was thought to have some relation to phases of the moon, and was called "moon blindness." Heredity was for a long time deemed to play an important part, and I have seen it stated[1] that "it is undoubtedly true that the disease is much less frequent than it formerly was, and it is also true that for many years past great care has been taken at horse shows to reject all animals which gave evidence of having suffered from the malady. In this way breeding animals affected with the disease have been marked out and their use largely curtailed in consequence." It has been called "periodic ophthalmia" because it was considered to appear at certain periods of the year; it has also been named "recurrent ophthalmia," "uveitis" and "primary iridocyclitis." The condition affects only horses and mules and has been ascribed to bad hygiene, faulty stables, mouldy fodder and infection, but in this respect I must point out that the cases I have seen have been in high-class animals, well stabled with good forage and water, and so far as infection is concerned, they may have had their eyes frequently sponged with a sponge used on other horses in the same stud—but in seasons when I have met two or three cases of this disease, they have been comparatively widely apart and never two in the same stud.

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Mention is made in the "Veterinary History of the War in South Africa," by Major-General Sir F. Smith, of an extensive outbreak of periodic ophthalmia that occurred in the Army of Occupation soon after the war ended. During the war, England purchased 109,739 horses in the U.S.A. between November, 1899 and June, 1902. Periodic ophthalmia was not recognised in South Africa before the war. It was first observed in army horses about December, 1901, and became a veritable scourge within a year after peace was declared. Two years after the war was over it was shown to be present in the horses of the Army of Occupation to the extent of 14 per cent. In certain remounts it ran as high as 48 per cent. It appeared to have been carried by horses that had the disease, to those of other remounts in which no cases had been observed previous to their arrival. The disease disappeared from South Africa as mysteriously as it had arrived and that country has now been free from the disease for about 30 years. It was believed that the disease was brought there by horses from the U.S.A. The native horses and mules appeared to be much less susceptible than were the American horses. It was not possible to transmit the disease experimentally by any method then known. Elsewhere[2] it has been reported possible to reproduce the disease by injecting material obtained from an active case of periodic ophthalmia into the eye of a normal horse, after having passed the infective agent through six generations of rabbits. This seems to suggest that the disease may be due to a filterable virus. Further investigation[3] showed that rabbits were susceptible to injections of material from both normal and diseased eyes and were unsuitable for the work. Although practically every horse injected with material from diseased eyes developed a more or less pronounced inflammation of the eye, no case of a recurrent attack was observed. It was unfortunate that all animals injected could not have been kept alive and under observation several years if necessary. Practically all the work done on this subject up to the present time had to be discontinued before completion for want of funds. It was estimated that it would probably require several years and not less than £20,000 to see the work completed. The disease has been said to be due to lack of vitamin A[4]—mainly because avitaminosis is associated with some diseases of the human eye, but proof does not seem to be available with regard to horses.

Allergy.—Evidence has been put forward[5] to support the theory that the condition is allergic, and goes back to the old theory of heredity, in that there is, in some horses, not actually a simple inheritance of the disease,

but a hereditary tendency or predisposition, *i.e.*, an allergy, to react in a definite manner to certain environmental conditions and that this reaction is manifest by the symptoms constituting specific ophthalmia. This inherited allergy is given as an explanation as to why only a very few may react when a large number are exposed to identical conditions. It is considered that this disease is most common in districts having a heavy clay and loam subsoil, or soils impervious to water, and that when such soils are drained the incidence of specific ophthalmia lessens. It is not the water which is the primary cause, but the parasitic invasion on marshy soils which leads to specific ophthalmia, because the repeated invasions with ascarides and strongyles respectively and their toxic products of metabolism must be considered as factors productive of allergy, as toxic proteins. Thus, it is suggested specific ophthalmia can occur only when horses possessing a predisposition to it are kept under conditions which facilitate the occurrence of the disease as the result of allergy-producing parasites.

Recently there appeared in the *Veterinary Record* an abstract of a report on this disease. (*Vet. Rec.* **51.** 1410. December 2nd, 1939) which I should like to repeat.[6]

"The author considers the disease from the point of view of histamine intoxication and compares its aetiology with than of laminitis. This comparison is based on the work of Akerblom, who suggested that the principal cause of the latter condition was auto-intoxication by histamine, derived from the food protein following bacterial decarboxylation of the amino-acid histidine (1934, *Skand. arch. Physiol.* **68**).

Although it is rare to find acute periodic ophthalmia concurrent with acute laminitis it is not uncommon to discover slight symptoms of laminitis at the commencement of a case of periodic ophthalmia, and similarly the onset of laminitis is frequently accompanied by myosis. By this theory the eye and the hoof are regarded as sites of predilection for local manifestations of a general intoxication.

The intoxication is regarded as the result of an accumulation of histamine-forming bacteria (strains of *Bact. coli*) in the alimentary canal, this state being encouraged by sudden changes of diet and an increased alkalinity of the intestinal contents. Experimental work performed lends some support to this view, *e.g.*, recovery of histamine from the blood of affected horses and the production of iridocyclitis by the injection of histamine."

I have not seen a case of specific ophthalmia since this abstract appeared but in the cases I have met with, I have never observed the slightest sign of laminitis or any other disorder apart from the eye lesions, nor in cases of laminitis have I met any ocular disturbance, but then I may not have been looking for them. I will in future.

Symptoms.—In a first attack it is usual to receive a request to see a horse that has "bumped his eye." The history is that the horse has not previously had any eye trouble, but has suddenly developed acute inflammation in one eye with the eyelids swollen and closed and tears running down the face, and showing marked resentment at having the eye touched. The condition definitely suggests an external injury and in a primary case, at the first onset, it is very difficult to decide whether the symptoms really result from a blow or rubbing the eye on a manger or door, or whether it is, in fact, the commencement of specific ophthalmia. Further, one may, after careful thought, decide that it is specific ophthalmia and if it turns out to be of very short duration and apparently clears up completely, one is again kept in doubt as to whether after all, the diagnosis was wrong, but in a few weeks the symptoms may recur and one can speak with more certainty. Conversely, one may readily diagnose a first attack as simple conjunctivitis from a blow or foreign body, perhaps being misled by a well-meaning attendant who says that he actually saw the horse bump his eye. This may clear up so readily under treatment that one takes the rapid recovery as a further proof that it was a slight injury—then a few weeks later the trouble recurs, and one feels not so clever after all. It may be possible always to be right if one can see into the anterior chamber, but with conjunctivitis, lachrymation and great resentment at being handled, it is sometimes almost impossible to do so. On the other hand, one may be told that the patient "had a bit of trouble with that eye once before, but it soon cleared up." That arouses suspicions at once and is a helpful pointer. In cases showing more definite symptoms and where it is possible to separate the eyelids and see into the cornea, one sees the altered conditions of the iris, etc., which are about to be described.

Early Clinical Symptoms.—The essence of specific ophthalmia is inflammation of the uveal tract, or irido-chorioiditis. There is, first of all, conjunctivitis, lachrymation, photophobia, hyperaemia and exudation, with or without haemorrhage. The absence of primary destructive lesions in the cornea is one of the characteristics of specific ophthalmia. The iris is infiltrated with blood-plasma and leucocytes which fill the angular spaces (spatia anguli iridis), constrict the pupil and render the iris rigid and insensible to stimulation. The anterior surface of the iris is dull yellow and somewhat resembles a dead leaf. Exudation may be restricted to the substance of the iris and may not alter the aqueous humor, but if it extends, renders the aqueous humor turbid, and flakes in it adhere to the wall of the anterior chamber and accumulate in the lower part of it and in which streaks of blood clot may be seen. Flakes or filaments of fibrin cling to the iris and posterior surface of the cornea. All these changes are visible through the cornea at a certain stage of the disease. What goes on behind the iris cannot be seen, but it is thought that the process is similar to that in the anterior chamber. Later, through the pupil one may see the effect of posterior changes, in adhesion between the back of the iris and the front of the lens (posterior synechia). Adhesion is produced because epithelium has been discharged off the iris, which lies on the lens. Posterior adhesion is much more likely than anterior. Changes in the ciliary body are similar to those in the iris. It has an ample blood supply and throws out inflammatory exudate which falls into both chambers and around the lens. The chorioid at the same time provides exudation, less in amount, which extends between the chorioid and the retina. This deadens the latter and if resolution does not take place in 24 hours separation between the chorioid and the retina results with permanent disorganisation of the eye. When the inflammation has expended its activity an attempt at repair begins and marked changes may occur in two or three days if the case is going to be favourable. In a first attack apparent recovery may take place, but sometimes

permanent defects result even from a first attack. Recovery is by resorption or organisation ; if by the former, it must begin very early as deposits soon form and are very apt to remain.

Complications are :—

Corneal Opacity, which sets in early and precludes observation of the anterior chamber or iris. In the chronic stage the cornea becomes clearer and one can see deformity of the iris, etc.

Anterior Synechia, partial adhesion between the iris and cornea. This is more likely to occur after two or three attacks.

Posterior Synechia, adhesion between the back of the iris and the lens, is more common.

Partial or complete occlusion of the pupil—by adhesion to the pupillary border of a film of fibrin stretched across—may take place, constituting what has been called a spurious cataract, or there may be just a band of fibrin across.

Opacity of the lens or its capsule or of the vitreous humor may occur after three or four attacks. Repeated attacks cause atrophy of the eyeball and the upper eyelid has the appearance of being too big and wrinkles. There will probably be a difference in the prominence of the two eyes, and on looking carefully into the smaller, one may notice that the margin of the pupil is irregular, due to some portion of the iris being fixed to the capsule of the lens. Sometimes the pupillary border of the iris is very ill-defined—it seems to melt away into space, and sometimes the cornea, though it cannot be said to be opaque, has a dull, smeary appearance which makes it difficult to see the iris. Each attack leaves behind some morbid change, ending in total blindness of the affected eye either from the opacity of the crystalline lens, changes in the iris, or from the deposit of a large quantity of inflammatory material in the anterior chamber, and ultimately the formation of a false membrane lining the inside of the cornea causing a permanent yellow opacity.

Treatment.—This is both general and local. If the horse be in good condition and not affected in the lungs it is recommended that a full dose of physic and a course of potassium iodide should be given, and if no physic is administered, larger doses of potassium iodide up to ½ oz. daily ought to be given ; in practice, however, I have obtained very beneficial results without recourse to physic by giving ½ oz. of potassium iodide twice daily in the drinking water, with the local application of a 2 per cent. solution of hyposulphite of soda in distilled water. On account of the danger of the formation of adhesions of the iris it is, I believe, customary to instil atropine or cocaine to cause dilatation of the pupil, alternately with eserine or pilocarpine to cause contraction. I do not believe in the adoption of this procedure in the early acute stage as it forces work on an inflamed structure—it is like working a horse with an inflamed tendon—but these stimulants of function are often necessary at a later stage to assist recovery. I am not in favour of keeping the patient in a totally darkened box, nor of blindfolding. Certainly avoid very strong light, but allow the animal liberty in a moderate light. The diet should be light and laxative—bran mashes, meadow hay and green food if available. Drinking water should be allowed in plenty, but the supply should be regulated in order to ensure that the patient will readily take the prescribed potassium iodide well diluted.

With regard to the histamine theory, I will quote the treatment advised in the abstract published in the *Veterinary Record*. **51.** 1410.

" Treatment consists of 24 hours' ' starvation,' the withdrawal of about 2 litres of blood by jugular phlebotomy, the hypodermic injection of 0·08 to 0·12 g. of pilocarpine and the giving of 300 g. of sodium sulphate with the possible addition of 15 g. benzonaphthol by mouth. To change the reaction of the intestinal contents one spoonful of lactic acid or phosphoric acid is given in the drinking water night and morning for the first four or five days. In serious cases 1 g. of methylene blue in 200 to 300 c.c. water may be given intravenously. Myosis and synechia may be treated by the subconjunctival injection of 1 c.c. of a 1 per cent. solution of atropine.

" Prophylaxis consists of attention to the diet, and if an attack is suspected, starving for 24 hours and administration of lactic or phosphoric acid for four or five days."

Treatment by non-specific protein has been employed and, for this, sterile milk is recommended, injected intramuscularly in doses of 5, 10, 15, 20 c.c. every 48 to 72 hours.

Rosenow advocated a vaccine he prepared in doses of 3 c.c. at the first injection, 5 c.c. at the second, and thereafter the dose was increased by 1 c.c. at each injection until not more than 10 c.c. were administered at one time.

With regard to the suggestion of allergy, prophylaxis is suggested by drainage of the soil and vermifuge treatment, and that where it is possible to protect horses from the sensitising action of parasites, there is no need to pay any attention to possible hereditary tendency to specific ophthalmia.

Vaccine has little, if any, difference in curative effects over milk.

References

[1]Wortley Axe, " The Horse."
[2]Drs. A. C. Woods and A. M. Chesney of Johns Hopkins University—*Journal of Experimental Medicine.*
[3]1934 Committee for the Investigation of Diseases of the Eyes of Horses, School of Veterinary Medicine, University of Pennsylvania.
[4]*Vet. Med.* (1937.) **32.** No. 6.
[5]*Vet. Med.* (1938.) **33.** 12-14.
[6]*Vet. Rec.* **51.** 1410.

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Discussion

The discussion was opened by Dr. A. C. Fraser, B.V.Sc., M.R.C.V.S., of Lambourn, Berks, in the following terms:

I am grateful to the Central Society for giving me this opportunity of attending one of their meetings and of hearing Mr. Wright's excellent paper. I must congratulate him on successfully achieving his stated aim of producing a paper on broad lines. He has given food for thought to all of us, whether our interests lie in the direction of anatomy, pathology, military operations or general practice. I am myself particularly grateful for the careful anatomical descriptions he has given of the clinical condition. The disease is usually considered seasonal, with slightly higher incidence in the winter months.

The greatest problem in connection with this disease is *the cause*. If only one knew the cause then by suitable

prophylaxis the condition might soon become a rare complaint, and, even more useful from a practitioner's point of view, the recurrences might be prevented, since, as Mr. Wright has clearly pointed out, the first attack is often so slight an affair that one is frequently doubtful if one has been correct in one's diagnosis, and if only practical measures could be taken in these cases to prevent further attacks the animal might retain his sight unimpaired.

One is attracted by the suggestion put forward by Akerblom that *B. coli* infection of the bowel is the root cause, with lactic acid or phosphoric acid twice a day as a more or less specific prophylactic. This is so simple that one hopes it is true. I will certainly add this treatment to the remedies applied in such cases. But can the *B. coli* theory hold water in view of the epidemic form of ophthalmia which Mr. Wright has mentioned as occurring during and after the South African War and which we know occurred similarly during the Great War and more recently in America? Quite possibly *B. coli* enteritis (clinical or non-clinical) is a common condition in horses massed under war conditions.

As for Mintschew's association of periodic ophthalmia with laminitis, I have never connected the condition with laminitis in any way and have never come across anybody who has suggested that there might be any relationship between the two conditions.

Mr. Wright has not stressed the likelihood of the spread of ophthalmia to the other eye. It is a matter of regret to me that I did not hear of this paper earlier, as I had just shot a thoroughbred gelding which had been affected with this disease in the right eye for some years and had won races, but had recently had attacks in the left eye, and though not quite blind, was useless for racing. I would have liked to have preserved the head and to have brought it along to the meeting.

These animals affected in both eyes are not always useless. There is a blind horse doing the odd jobs now at a famous riding school in Wiltshire and our Lambourn dispenser speaks of two black mares which pulled the water cart for the Eighth Division Ammunition Column in France in the four years' war, both of them completely blind from periodic ophthalmia, winning prizes time after time in the shows behind the lines when resting.

There are also those cases which do not recur. I have an animal in mind which was bought by a client five years ago for farm work. He did not notice anything wrong with the eyes at the time of purchase, but a few days later he saw that the right eye was what he called wall-eyed. Actually it was a typical early periodic ophthalmia case. The pupil was slightly distorted and there was an accumulation of white material organised as it had sunk at the bottom of the anterior chamber. I saw the animal this week. The condition is unchanged, the eye never having given any trouble in five years' work.

In cases where several attacks have occurred the eye becomes smaller, as Mr. Wright has said, and there is one common appearance of the upper lid, which forms, instead of a smooth curve over the eye, the two sides of a right angle, the longer arm commencing at the outer canthus and the shorter at the inner canthus, thus forming the right angle almost directly above the inner angle of the eye.

Photophobia is one of the most important clinical features of periodic ophthalmia. In examining horses for soundness one may have in ordinary daylight only a suspicion about an eye, but turn the light of an ophthalmoscope on to it and suspicion is turned to certainty as the affected eye is almost always found to be markedly more sensitive to light than the good eye.

As regards research there is the hope that we shall benefit further from the results of the American committee of investigation which was set up in Pennsylvania as a result of the widespread occurrence of this disease in the Mississippi and Ohio river valley areas and in Kentucky horse breeding centres where the whole industry was a few years ago in danger of local extermination due largely to periodic ophthalmia.

Mr. W. Perryman observed that he would like to say a few words in reference to that old complaint: it was quite a familiar subject to some of them after very long experience in practice, and its resuscitation that afternoon made some of them feel younger men. He thought Mr. Wright had dealt with the subject splendidly, and they were indebted to him for having brought it before them so ably. As the essayist had said, they did not get nearly so much equine specific ophthalmia as was the case years ago. When he was a younger man the disease was looked upon as quite a common condition, whereas nowadays one saw comparatively little of it. He had always felt that it was a disease the profession should know more about and, as they had a good many bacteriologists in the profession now, it was his opinion that more attention should be devoted to it, with particular reference to ascertaining the cause. In his opinion the disease was of bacterial origin: also that it was a local infection and not a constitutional one. It was seldom that both eyes were affected and, in recurrent attacks, the affected eye was most frequently the same one. While the condition was not constitutional in nature he quite agreed that it caused constitutional trouble. The pain in some eyes thus affected was very serious and a febrile condition obtained; he thought, however, that was due entirely to the excessive pain.

He was glad to hear the suggestion that the disease had no association with laminitis. He was always mystified by the fact that an animal that had become blind through having repeated attacks of periodic ophthalmia would rarely or never have another attack. He would like to mention that when they were younger members of the profession they invariably—as they had been told to do—looked for a corrugated upper eyelid, and if found it was held to be highly suspicious of periodic ophthalmia; he would like to know if Mr. Wright thought there was anything in that.

As to the treatment, he did not think they could cavil at the essayist's observations under that head. He himself favoured the use of the belladonna and opium ointment. A few years ago he had a bad case of eye trouble; it was terribly painful, and the owner thought that the horse had sustained a blow. The condition did not respond to sedative treatment, however, and he (the speaker) injected cocaine. After a few minutes the animal allowed him to examine the eye and when he got the lids open out dropped a long piece of hay seed which had been lying there inside the lid for over a fortnight. He would ask them to take that as a hint that they should look for something else, first, before directing their attention to the possibility of the existence of periodic ophthalmia.

Lt.-Col. H. Greenfield said that having served in the Army for many years and through two campaigns in which they had huge losses from this disease, he had had very considerable experience of it. Some 14 or 15 years ago he wrote a paper on it for a private purpose, and when he said, exercising a certain amount of caution, that he had himself treated about 2,000 cases of "equine specific ophthalmia" in various parts of the world—most of them in South Africa, many in France and many in China—they would realise that when he heard they were to have a paper on it that afternoon he felt rather that they were dragging a horrible skeleton out of the cupboard. He hoped that no one would accuse him of being patronising when he said, with the experience he had had, that he congratulated the essayist on producing in a short

space a really brilliant article: he thought it was about the most accurate paper he had ever heard on the subject.

In producing his own paper he had had the advantage of the collaboration of the late Mr. Henry Gray, whom they all knew as the one veterinary man in England who had studied eyes; at his instance he re-wrote it and Mr. Gray gave him a colossal bibliography to go through to do so. He had also to acknowledge his indebtedness to Nicolas.

Their essayist had said that the affected animals were travelled horses; that was an extraordinarily good observation—it had been his own experience throughout the world. In China they had an old adage for centuries that "if you send a mule by sea it goes blind."

He did not quite agree with Mr. Wright that the disease had been called periodic ophthalmia because it occurred at certain times of the year. It had been mentioned by many authorities that the condition was recurrent and periodic every three weeks or a month and that that was how it acquired its original title. The essayist had referred to it as being sporadic but, at the same time, had spoken of it as periodic.

The opener raised a big point—that if they wanted to get any more forward with that disease they must make up their minds what it was. There was no more reason to call it ophthalmia than there was to call ulcerated cornea an ophthalmia. Therefore, so long as they called this disease an ophthalmia it seemed to him they would get no further forward. In 1904 he published a paper on it in which he said after a good many months of research work on the condition that it was an iritis. He was not putting forward an entirely new suggestion because in 1819 Wardrop published an excellent article saying that it was wide-spread, and an iritis, and the same thing was shown by Sichell in 1862. In his view, until they found definitely that there was a germ or that it was transmissible, they had no right to keep on talking about it being a specific condition.

Their essayist had said that there was an hereditary predisposition as one of the chief causes. He (the speaker) did not think the evidence, when they considered masses of animals, supported that view in any way. In the Great War they had thousands of cases: a great many of them were in animals imported from North America, and while they had found numbers of cases in Flanders and in France amongst them they did not have a single case in animals imported from U.S.A. to the Near East and Egypt; neither did they have it in the Divisions which had been in Flanders and which were subsequently transferred to the Near East. The same thing applied to the question of marshy soils: they had evidence of cases of iritis in South Africa, where it was as dry as a bone—there was no question of any marsh, and here again he considered the occurrence of irido-cyclitis was totally unrelated to such a situation.

He thought the symptoms given by the essayist were particularly good, but there were one or two which he thought should be added. One which he thought had never been referred to in literature was that when the period came that the patient could open its eye, by an artificial light you got a white-like stream showing through to the lens, because the aqueous humour had been thickened by lymph. Many books referred to the cornea as being slightly cloudy: in his opinion that was not the case generally, though it might look a little brown, which was due to the dilatation of straight corneal blood-vessels behind the cornea, as had been discovered by Mr. Henry Gray.

An indication of iritis was provided by the circumcorneal ring. That could be tested with adrenalin: if it was a superficial condition it would disappear; if it was the typical vascular congestion of iritis it would not.

With regard to treatment he (the speaker) introduced a treatment which was supposed to be very good, but now he was not so sure. The essential thing about it was the use of atropine. When their essayist said he would relieve this by alternate use of eserine he did not quite agree that the latter had sufficient power to counteract atropine.

One of the most interesting things mentioned by Mr. Wright was allergic treatment for this condition. He thought it should be very valuable, but he would suggest that Mr. Wright might increase his dose of 2 to 3 c.c of milk for the horse. The speaker used 2 to 5 oz. in dogs. It was vital that they should tackle the cause, however, if they were to treat the condition with effect. He thought that the evidence showed that it was not an endogenous affection because, to start with, it very rarely affected both eyes at once—almost invariably it affected alternate eyes. In South Africa he had charge of a regiment of 500 ponies and in all that lot there were 25 or so affected. He inspected every eye twice a month and every affected one daily for months, charting results and treatment—so that when he said the disease was the effect of previous minor eye trouble, and that it was rare to get it acutely in both eyes together, he was talking of definite facts as far as he knew them.

The essayist had pointed out what he (Col. Greenfield) had drummed in as hard as he could 36 years ago, namely, that they would find in nearly every instance a history of there having been a little trouble in the affected eye a few months previously: that had been brought out very ably by Mr. Wright.

Another thing of great value told them by the essayist was his reference to the figures of the South African war, which he (Col. Greenfield) did not think had been sufficiently noticed before. With reference to the fact that wherever that disease had occurred it had taken a very long time to develop, the South African war started in 1899, the date of the first case was December, 1901, while the incidence of iritis from 1903-4 was 14 per cent. (2,000 cases) in the whole of the animals employed. In the Great War the first case was in December, 1916, the second year, while some units in the field had 10 per cent. of the animals affected in the third and fourth years. He himself had a battery in which from 60 to 70 animals were blind in one or both eyes from it out of about 200 horses. In the Waziristan campaign of 1919-20 the first case occurred probably about the third or fourth year after the animals had been there, and there were about 2,000 camels affected, or 10 per cent. of the total. This suggested definitely that incidence was slow, possibly due to repeated or continuous causation. In Labourriere, in May and June, 1918, during the Great War, the speaker had for a few weeks some 70 to 80 horses suffering from irido-cyclitis in semi-acute form but working with their units, under an experimental treatment of syringing out the lachrymal passages, to remove the possibility of re-infection of the eye or disease of the lachrymal sac, if it existed. An interesting point which might be of value was that amongst these animals the lachrymal passage was blocked in 20 to 30 per cent. of cases. In approximately 15 per cent. the occlusion had been of such duration and suppuration so intense in the blocked channel that there was ulceration through the lachrymal duct beneath the eye, or more commonly through the nasal duct wall and into the nose. In at least two cases there was ulceration through the facial bones and on to the face, incredible as that might appear—these facts and figures had been supported by similar observations among other cases since. The animals were syringed out every day, and exact records kept of the lesions, progress, etc., but it was regretted that it was only possible to get approximate figures from memory. Enemy action enforced the closure of the procedure, and the records were lost during operations later.

He did not think it had ever been recorded in the literature how very common it was for the animals affected to suffer from night-blindness. That was a very common symptom, however, and he thought the cause was very obvious, because when iritis occurred the eye contracted and as the exudate of the lymph through the iris became adherent to the cornea, the pupil could not dilate sufficiently to enable the animal to get sufficient light.

Mr. C. W. Ottaway desired to pay tribute, as Dr. Fraser had already done, to the lucid way in which Mr. Wright had outlined the anatomical structures involved in this disease. The first observation he wished to make, however, was a parasitological one. Mr. Wright had mentioned the possibility that a toxin, possibly elaborated by parasites, might be incriminated in this condition. In the dissection room they found a tremendous number of parasites in ponies, not only around the root of the anterior mesenteric artery, but in all parts of the body; yet in no case, after the most careful dissection, had they noticed any pathological changes in the eye which would seem to be associated with specific equine ophthalmia.

He would like to know if in specific equine ophthalmia there was any rise in intra-ocular pressure. It appeared to him that, as it was confined largely to the inter-uveal tract, and they had been told that in complications of the disease synechia occurred, one would expect to find such a rise. He desired to know what to look for when examining horses for any evidence of that disease at shows. In these synechias at *post-mortem* examinations did the essayist attribute the adhesions as due to blood flakes in the aqueous humour or to defects in the endothelial lining of the iris? Did corpora nigra complicate the condition?

Mr. W. S. King, having also thanked the essayist for his valuable and interesting paper, said that the condition was fairly prevalent in this country from 1914 to 1920: he thought it was imported largely from horses coming from the Argentine and America—but since 1920 he had not seen a case. The disease was most prevalent in young animals collected at the various ports, the age of the affected horses being from 4 to 6 years.

Reference had been made to the subject of laminitis: he was definitely unable to see what relationship there could be between specific ophthalmia and laminitis, but there were several points of marked difference. For one thing he had never seen a case of periodic ophthalmia recover, whereas to-day laminitis was one of the most amenable conditions to treat—one was hopeless to treat, the other easy. Again, they looked upon specific ophthalmia as being definitely specific, whereas he regarded laminitis as toxic. He thought he was also correct in saying that he had no recollection of seeing the disease in a British-bred horse. He had met with two or three cases which he thought were definitely bi-lateral cases of specific ophthalmia. As regards the treatment, they tried everything they could think of, but they got no results.

Lt.-Col. G. P. Knott said that he wished to contribute a few observations from a practical point of view. He had seen a great deal of equine specific ophthalmia in different countries, and especially in South Africa, and afterwards in the Great War, and he had always found that one got a good many cases when horses were crowded together in bad hygienic conditions. The disease probably started on board ship, although it might not reveal itself for months afterwards: for example, it was never seen in horses from Australia until they came together in hot stables. He would say, therefore, keep your horses out in the open and you will not get specific opthalmia as much as you will do if they are kept in heated stables that are badly ventilated.

The Reply

Mr. T. L. Wright, in replying, said that he was very gratified that there had been a good discussion on that subject, which was what he had aimed at, and that it had produced a number of interesting points which would be of value in the future. He must thank Dr. Fraser for the very complimentary tribute he had paid to his effort and the very concise way in which he had dealt with the subject in opening the discussion. He wanted to make it clear that a number of the statements he made in his paper were quotations from other writings. He was glad to find that in the main the points from these writings with which he had expressed disagreement in his paper had been unacceptable to most of the speakers as well.

Dr. Fraser mentioned the treatment based on the suggestion that *Bacillus coli* had something to do with the question of ophthalmia; he (Mr. Wright) had pointed out when quoting this extract, when speaking of the histamine theory, that it was published very recently so he had not had the opportunity of trying out the remedy suggested. The suggested association with laminitis was not any idea of his: it occurred in the quotation from the abstract and he said that it was a surprise to him to see the suggestion. He thought the suggestion in the abstract that laminitis and myosis were concurrent was probably due to the fact that the affected horse could not see very well and his action resembled that of a horse with laminitis. He had an instance of this last summer, where an owner was thus misled. He was glad to hear Dr. Fraser say that he had never noticed laminitis in connection with his cases of specific ophthalmia.

Some speakers, like Dr. Fraser, had mentioned that they had seen cases of bi-lateral affection. In his experience, however, the disease had affected one eye only, but that was probably because his experience was somewhat limited.

He had noted that condition of paralysis of the iris: he had a case which he would have brought for inspection if the meeting had been at the Royal Veterinary College, in a horse which came from the Argentine. It was examined by a veterinary surgeon of great repute and passed sound, but three weeks afterwards the owner said he thought the horse was blind and brought the animal to him. While in this country it had never had any sign of lachrymation or any of the early symptoms of specific ophthalmia which it was usual to see, but the pupil of the off eye was firmly fixed. Nothing else was to be noted. That was a thing which might fairly easily be overlooked if one examined the eye in a moderate light. The great test was, if one looked at the horse in a moderate light it was always essential that both eyes should be examined in a stronger light and also in a duller—otherwise one might get the horse in a light which made the sound pupil match the unsound one. He thought it was most likely the result of a previous attack of specific ophthalmia, probably before the animal came to England.

Dr. Fraser had referred to the eye that had had repeated attacks getting altered so much that it changed the appearance of the inner canthus; the eyelid became somewhat wrinkled—he (the speaker) did not think, however, that this was actually limited to the inner canthus.

He was glad to learn that the subject of his paper had a rejuvenating effect on Mr. Perryman. (Laughter.) It was remarkable that this disease had been known for centuries—and yet how much did we know about it? He agreed with him that we ought to know far more about it than we did. Mr. Perryman's suggestion was that the disease was probably bacteriological and local; on the other hand, of course, it was seldom seen in both eyes and if it was only bacteriological why should it generally affect one eye only and why should it only recur in that eye?

Mr. Perryman had mentioned some of his omissions: he had in fact gone so far as to take the line that he had not mentioned cases terminating in blindness: but he had done so; he had said the disease was recurrent and always terminated in blindness. Mr. Perryman had also said that when the blindness had occurred one did not see any more of the recurrence of actual symptoms of inflammation. With this Mr. Wright agreed. The case Mr. Perryman had mentioned of the piece of grass being in the horse's eye was one which might well mislead one into thinking that the case was one of specific ophthalmia. He should have thought, however, that when one looked at the conjunctiva one would have found it much more swollen and injected than in a case of ophthalmia.

He was very glad to get the benefit of the great experience of Colonel Greenfield; that was just what he was wanting, and Colonel Greenfield had given them some very valuable information. He appreciated his very kind remarks on his efforts and he valued these as much as

he valued the discussion Colonel Greenfield had put forward on the paper. This speaker had expressed agreement with him that the disease did seem to be more common in travelled horses. With regard to the name "Periodic Ophthalmia" it was doubtful whether this was adopted simply because the condition came on periodically or whether it was because the condition was at one time supposed to occur at certain periods of the year. Colonel Greenfield certainly spoke as though the condition was almost exclusively an iritis, but it was more than that: it was an irido-cyclitis and he (Mr. Wright) thought that because practically all the structures of the eye were affected one was entitled to call it an ophthalmia. In regard to the use of the word "specific" he thought the term was meant to imply that the disease was specific to horses rather than specific as regards the condition. Reference to hereditary pre-disposition was a quotation and he must say that the suggestion of allergy had taken great root in his mind. It was extraordinary what things were being discovered to be allergic in humans and he saw no reason why they should not be in certain of our animals. He thought, so far as horses were concerned, that there was little doubt that certain allergic tendencies were hereditary: that was why he was rather inclined to think that specific ophthalmia might be a condition to which there was an hereditary pre-disposition which revealed itself when a large number of horses were crowded together in the same environment yet only a few became infected. Colonel Greenfield had mentioned the great variation of the incidence of the disease in different places. There again they should take into consideration the fact that those horses that were in the Near East and were on high ground and did not get affected, might not have been subject to the same exciting cause as those which were on the low ground in France. He had noticed the running of the white streak from the cornea to the iris in some cases, but not in many. Colonel Greenfield's statement about the circum-corneal ring was quite news to him and was a point that he must follow up. Colonel Greenfield had mentioned the use of atropine, which was no doubt very good, and had suggested the use of atropine and eserine alternately with a very short interval; he should put the atropine in in the afternoon and the eserine in the morning. With regard to the non-specific treatment of the condition, Colonel Greenfield had mentioned the use of milk as being of value in the dog, but he did not know that specific ophthalmia occurred in any other animal than the horse. Until they could get at the cause they were rather in the dark as to any treatment or prophylaxis. It was certainly a great aid to diagnosis to get the information that the animal might have had a previous attack of a weeping eye. The evidence given and remarks made by this speaker in regard to the long period of incubation and that it was a bacterial disease was very interesting. That made it very difficult to trace any infection and probably was rather confusing to any effort to associate the condition with allergy, though it was more readily associated with allergy than with infection. He was interested in his remarks on syringing the lachrymal passages and finding them blocked: he thought it was very likely that in repeated attacks of specific ophthalmia the passage would readily get blocked.

In reply to Mr. Ottaway, he thought the anatomist was correct in saying that the cornea had no blood vessels, but that the pathologist was correct in saying that the cornea had blood vessels because the canal loops spread in from the ciliary region. There were no blood vessels in the cornea in a state of health, but in acute inflammation one could see them with the naked eye: the important point was that they were straight. He was interested to hear Mr. Ottaway's remarks about the ponies that were full of worms and yet one found no eye lesions. There might be many proteins which might cause this condition which were not associated with worms at all. He had never had any means of testing intro-ocular pressure but he should think there was a very considerable increase. Mr. Ottaway had referred to his remarks about the care taken at horse shows to look out for any signs of the effects of this disease and to turn horses down from the breeding classes. That was a quotation and it was made to show that the disease was hereditary and that by careful elimination of these defects of the iris—adhesions, etc.—and defects of the lens which constituted cataract, they claimed that by preventing all these horses from breeding they had reduced the incidence of this disease. This speaker had asked how adhesions came about: so far as he could gather the iris was covered with epithelium and during the acute stages the epithelial cells dropped off and the raw surface stuck on to the lens. He had been struck with the number of cases where the corpora nigra did not appear to have been affected at all.

He must thank Mr. W. S. King for his contribution. At the time of the war, horses were widely distributed and it was no surprise that there was a high incidence of specific ophthalmia. He had treated many cases of iritis by the internal administration of potassium iodide and with a considerable measure of success. Mr. King had said that he had not seen the condition in British-bred horses—he thought that probably Dr. Fraser's cases were in British-bred horses, however. He had never seen the condition in both eyes.

Colonel Knott had referred to bad hygienic conditions: he should suspect horses kept under those conditions, but the cases he had seen had been in animals kept under very good hygienic conditions.

CROPPING OF ADDITIONAL ARABLE FOR FODDER

A series of five conferences attended by the Chairmen of the county war agricultural executive committees and the executive officers is being held at the Ministry of Agriculture to discuss food production plans for the next cropping year 1940-41. In the first year the chief aim was to bring 2,000,000 acres of grassland back to the plough. This has been achieved, although it seemed early in the spring that the objective would not be reached. The aim for next year will necessarily be more comprehensive than the breaking of another 1,000,000 or 2,000,000 acres.

In this connection *The Times* observes: "A further increase in output from the land could probably be attained most readily and with less disturbance to established production by insisting on the more generous use of suitable fertilisers on existing arable land and on the better management of grassland. If every farmer used his land to as good advantage as the best farmer in each district an increase in food output of 15 or even 20 per cent. would result. In some cases the county war agricultural executive committees are already using their powers to require indifferent farmers to clean fields by bare fallowing or to apply lime and other fertilisers needed to grow full crops. As farm surveys are completed, parish by parish, the committees will know more accurately what needs to be done and what is practicable.

Livestock First

"It is now clear that the greater part of the extra arable land cropped for this year is to carry oats, barley, roots, and other fodder crops. Britain is a livestock country, and the first concern of farmers has been to provide more food for cattle and the other stock by which they earn their livelihood. British agriculture could not maintain the output of milk and other livestock products without relying on imported feeding stuffs, but the extra cropping undertaken this year should replace part, perhaps one-fifth, of the 8,000,000 tons of feeding stuffs usually imported each year. The farmer's instinct to provide first for his livestock and to do his utmost to maintain his dairy herd and the production of eggs and pig meat is fortunate for the nation now that Danish supplies of dairy produce, eggs, and bacon have been lost."

THE VETERINARY RECORD
May 25th, 1940.

SPECIFIC OPHTHALMIA IN HORSES

IT is a matter of enquiry why equine specific ophthalmia, once a scourge and considered one of the commonest diseases of the horse's eye in this country, has become comparatively rare. It now seems to have subsided in Britain as it has done previously after great outbreaks during and for some time after war. Yet, it may again become a serious factor in army horses if horse transport should be again utilised.

There is wide opportunity for further research into the so-called "specific ophthalmia of the horse." Even its nomenclature is dubious. Thousands of apparently identical cases have been recorded in mules and camels, and clinically similar conditions have been described in man, cattle, birds, and fish. There is widespread inflammation of the eye when the disease becomes extensive, but so there is in chronic ulcerated cornea. To call the condition ophthalmia, which after all is a non-specific name, is, we suppose, inevitable until fuller knowledge comes to hand.

Some have attributed its origin to heredity; this has been denied by others but the suggestion that it may be associated with inherited allergy is worthy of further investigation. It has been attributed to bad stables; in this connection it may be noted that it does not occur in coal mines and there is ample evidence of its occurrence in high-class studs. A more recent theory is that it is associated with so-called noctiluca or night-blindness as a result of a chronic vitamin A deficiency. Though nearly every observer states that specific ophthalmia arises in a damp cold climate or soil, the fierce outbreak in the South African War, 1899-1901, proved definitely that neither is an essential factor.

One point was stressed in the paper reproduced to-day which may be of immense value in clarifying the position, namely, the observation of Major-General Sir Frederick Smith that during the South African War, under conditions in which great numbers of cases were recorded and dated, the disease only attained major proportions after a period of two years. Further, in the war of 1914-18, it was not until after two years of warfare that the disease assumed great proportions.

It does seem true that this affection is greatly increased by war conditions, in which the causative agency is complex.

We therefore have to admit that so far the natural history of the disease remains a mystery, and it is clear that the study of veterinary ophthalmology needs to be taken up with energy in this and kindred conditions of the eyes of our domestic animals.

ABSTRACTS

[THE COMPOSITION OF THE BLOOD AND MILK OF LACTATING COWS DURING INANITION, WITH A NOTE ON AN UNIDENTIFIED CONSTITUENT PRESENT IN CERTAIN SAMPLES OF ABNORMAL MILK. Smith, J. A. B., Howat, G. R., and Ray, S. C. (1938.) *J. Dairy Res.* **9.** 310-322.]

A detailed study of the secretion of milk by three Ayrshire Cows during a twelve days fast, in order to determine what variations occurred in the yield and composition of the milk and whether these variations could be related to changes in the blood composition.

Unfortunately one animal developed an illness akin in its symptoms to milk fever whilst with another cow the experiment had to be discontinued on the seventh day owing to the animal's unsatisfactory condition, so that only one animal out of the three could be taken as an example of simple starvation.

The effect of the starvation was to cause a rapid fall in milk yield accompanied by an increase in the percentage of protein, fat and chloride and a decrease in the percentage of lactose. When considering total daily yields of the various constituents, however, there was a fall in every case, most marked in the case of lactose which fell to 13 per cent. of the original figure. There was no evidence of any direct relationship between variations in milk secretion and variation in blood constituents.

In two cases an unknown substance appeared to be present in the milk amounting in some samples to 2 per cent. of the milk or 20 per cent. of the solids-not-fat. This constituent was not identified but it is suggested that it may have been a glyco-protein.

A. R.

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[INTRAVENOUS MEDICATION IN LARGE ANIMAL PRACTICE. Krill, W. R. (1940.) *J. Amer. vet. med. Assoc.* **96.** 220-224. (4 refs.)]

Depending upon the volume of material to be administered intravenous injections in large animals can be made either with an ordinary hypodermic syringe or with a gravity outfit. The jugular vein or the subcutaneous abdominal vein are the sites of choice. In swine the marginal ear vein is most accessible.

Intravenous injection of calcium salts is a common practice in the field. In milk fever 250 c.c. (½ pint) of a 20 per cent. solution of calcium gluconate with 25 per cent. dextrose added, rapidly affords relief. The action is sustained by a similar dose given subcutaneously at the same time. Calcium gluconate with dextrose has also been employed successfully in acetonaemia and in cases of grain or forage poisoning. In the latter it is sometimes necessary to continue medication for as long as a week before successful results are obtained.

Sodium iodide by the intravenous route gives irregular results in the treatment of actinomycosis. On the whole it is not so effective as potassium iodide *per os*. In the treatment of ringworm (*Trichophyton* spp.), however, it has been used with excellent results. Of a solution of 90 grammes (3 oz.) of sodium iodide in 500 c.c. (1 pint) of distilled water, yearlings receive 50 c.c. (1·6 oz.), two-year-olds 75 c.c. (2·5 oz.), and adult cattle 100 c.c. (3·3 oz.). One injection is usually sufficient to effect a cure.

A combination of sodium nitrite and sodium thiosulphate injected intravenously is effective in cases of hydrocyanic poisoning if used early enough. For sheep the dose is 10 c.c. (2·5 drams) of 10 per cent. sodium nitrite solution with 30 c.c. (1 oz.) of 10 per cent. solution of sodium thiosulphate. For cattle the amounts are 25 c.c. (0·8 oz.) and 150 c.c. (5 oz.) respectively.

Intravenous dextrose is employed in cases of shock and in acetonaemia. Ten per cent. dextrose-saline is of value in dehydration and cachexia.

In equine influenza daily doses of 3 to 6 grammes (45 to 90 grains) of sodium cacodylate administered by the intravenous route have been successful. Neoarsphenamine in 3 to 4·5 gramme (0·75 to 1·1 dram) doses has been utilised in periodic ophthalmia of horses. It is of questionable value.

The use of intravenous injections of formalin in the treatment of purpura haemorrhagica is both safe and effective. Fifteen c.c. (0·5 oz.) formalin in 25 c.c. distilled water is administered very slowly. If necessary the dose may be repeated on the second day.

Sodium bicarbonate intravenously is recommended for cases of shipping fever in cattle. The dose is 1½ to 2 litres (3 to 4 pints) of 8 per cent. solution.

Intravenous injections of sodium benzoate have been used successfully in laryngo-bronchotracheitis, bronchopneumonia, pneumonia, and parasitic pneumonia of cattle [Abst. *Vet. Rec.* **50.** 1408 ; " Benzoic acid in veterinary medicine." Parnes, J. (1938.) ; also *Berl. tierärztl. Wschr.* **15.** 214-215].

Chloral hydrate has been used occasionally as a general anaesthetic. Intravenous injection of 30 to 60 grammes (1 to 2 oz.) chloral in 7 to 10 per cent. solution provokes anaesthesia lasting about one hour. Nembutal has been little used in large animals because of expense. Intravenous injection of 100 to 150 c.c. (3·3 to 5 oz.) of 1 per cent. solution produces narcosis in the horse.

D. D. O.

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[**TREATMENT OF TRYPANOSOMA BRUCEI INFECTION IN HORSES.** Stewart, J. L. (1939.) *J. comp. Path.* **52.** 316-317.]

There is so little literature on the subject of *T. brucei* infections of horses that the cases recorded are of interest. The author had never treated a case successfully until he achieved success in the two cases recorded. The first case he treated with a combination of naganol, two doses of 2 grammes and one of 4 grammes, at weekly intervals, interspersed with tartar emetic, dosage from 12 to 15 grains, novarsenobillon being given as a tonic. After the second 4 gramme dose of naganol alarming symptoms appeared ; the testicles were enlarged, the anus was ulcerated (which is said to be a common toxic symptom of naganol) and after the second dose the horse developed an acute coronitis followed by laminitis. Sepsis appeared under the coronary band, but after treatment the " feet gradually recovered." The horse relapsed to *T. brucei*, however, and antimosan combined with N.A.B. were substituted for the previous treatment. Finally antrypol was substituted for the naganol which again caused tenderness of all four feet. Treatment was eventually stopped and at the end of five months no trypanosomes had been found in the blood. The horse was gaining weight and appeared to be cured.

The second case was treated with the antimosan and naganol with N.A.B. as a tonic. Two grammes only of naganol were administered but later 3 grammes of antrypol were given. After the second weekly injection of antrypol, the animal began to show the same toxic symptoms as the first case had done. It was in such pain that destruction was contemplated, but eventually it recovered and no further trypanosomes were found in the blood. The third case received a course of three injections of antrypol and tartar emetic. After the third dose it became so weak that it had to be destroyed.

If the first two cases are recoveries, as they appear to be, " they are the first from *T. brucei* in the Gold Coast " where this parasite is invariably fatal to horses. It is proposed to treat future cases with the combined antimosan and naganol treatment, giving very small doses of naganol.

L. E. W. B.

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[**SQUAMOUS-CELLED CARCINOMA OF THE TONSIL IN THE DOG.** Withers, F. W. (1939.) *J. Path. Bact.* **49.** 429-432.]

Although tonsillar carcinoma in the dog appears to have been described in the literature on only one occasion, the condition is comparatively common among dogs brought to the clinical departments of the Royal Veterinary College. During the years 1934-1939 no less than 40 cases were confirmed histologically and this probably represented only about one-half of the total number of cases. Among 396 dogs coming to autopsy during a period of 16 months, there were 100 cases of neoplasia ; of these there were 53 carcinomata, 24 being tonsillar epitheliomata (24 per cent. of cases of neoplasia).

The commonest type of lesion consists in replacement of the normal tonsil by an ulcerating plaque-like lesion occupying the tonsillar fossa. Quite small primary growths may be accompanied by very large secondary neoplasms in the regional mandibular lymph node. In five of the 24 cases there were secondary deposits in the lungs.

The histological structure is that of a typical squamous cell carcinoma with abundant mitoses and " cell nests." The secondary tumours in the lymph nodes and lungs often show considerable anaplasia, differentiation to form " cell nests " being uncommon.

The condition was commonest in dogs from six to 10 years of age and all the animals were destroyed because of the unfavourable prognosis. Only one case of tonsillar epithelioma was encountered in species other than the dog ; this was in a cat in which the neoplasm involved tonsil, soft palate and root of the tongue, with a secondary tumour in the local lymph node.

E. G. W.

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[**CLINICAL OBSERVATIONS IN THE TREATMENT OF CUTANEOUS STAPHYLOCOCCAL INFECTIONS OF THE DOG WITH ANATOXIN.** (Trans. title,) Buzenac, J. (1939.) *Rec. Méd. vét.* **115.** 531.]

The author treated 25 cases of different staphylococcal skin diseases such as interdigital cysts, eczema and otitis externa. He claims that anatoxin improved all, and cleared most. The details of the doses given to each case and the effect of the treatment on the individual are included. A typical animal received doses of ½, 1, 1, 2 and 2 c.c. at intervals of between three and five days. He raised the doses, varied the intervals between the doses, and the number given according to the response to the treatment. If severe reactions were encountered the size of the dose was decreased, but was still found to be effective.

P. S. W.

REPORT

[**CITY OF BIRMINGHAM.** Report of the Chief Veterinary Officer, for 1939.]

The 59th Annual Report of the Chief Veterinary Officer for the City of Birmingham shows that he has a staff of seven veterinary inspectors and fifteen meat and food inspectors. The Veterinary Department carries out work for the whole of the corporation.

The first part of the report deals with meat and food inspection and shows that during the year 1939, a total of 802,432 animals were slaughtered in the city abattoir and private slaughterhouses, the weekly average being 15,431 animals. As regards meat (other than bacon) sold in the city, 44·9 per cent. was home-killed and 55·1 per cent. imported. In connection with the Live Pig Market, 97,125 animals were passed through. It is seen that 615 tons of meat and 89 tons of fish were found unfit and condemned during the year.

Regarding the Diseases of Animals Acts, during the year there was one outbreak of foot-and-mouth disease at the Public Abattoir and two other outbreaks in the city. One hundred and eight cases of suspected swine fever were investigated; 37 of these were reported to the Ministry of Agriculture and Fisheries, 26 of which were confirmed. Eighteen cases of bovine tuberculosis were dealt with under the order.

The section dealing with the milk supply of the city shows that 1,867 bulk samples of milk were sent for bacteriological examination, of which 9·3 per cent. showed the presence of tubercle bacilli.

The report further deals with the corporation stud of 305 horses. The following table shows the net cost per horse per week for 1939 :—

Provender and Bedding	10/5·4
Shoeing	2/8·8
Harness	7·9
Superintendence	5·9
Wages (Stable)	8/7·1
„ (Granary)	2/7·4
Sundries	1/2·2
Interest and Sinking Fund	4·7
National Insurance and Superannuation	3/0·7
	30/2·1

During the year 62 horses were sold, the average price realised being £21; 44 new horses were purchased at an average cost of £66.

In addition to the stud, the Veterinary Department is responsible for the supply of fodder and grain for the various institutions; during 1939, 2,948 tons of feeding stuffs were purchased for the stud and the institutions of the corporation.

The health of the stud was good throughout the year, the horses off work being an average of 1·2 per cent.

H.M. STATIONERY OFFICE PUBLICATIONS

AGRICULTURE AND FISHERIES, MINISTRY OF:

Leaflet, Advisory, 145. Fowl Pox. Revised February, 1940. (24-9999) 0 1 0 2
doz. 0 9 0 11

N.V.M.A. DIVISIONAL REPORT

CENTRAL VETERINARY SOCIETY

The appearance in the programme of the Central Veterinary Society in this session of a paper by Mr. T. L. Wright, of Putney, entitled "Some comments on Equine Specific Ophthalmia," was not only particularly pleasing to the older members of the profession, but very much in keeping with current opinion in veterinary circles that horse practice, so far from being a thing of the past is, under present conditions, coming into its own again. The meeting at which this paper was presented was held, with the President (Mr. H. E. Bywater) in the Chair, at the Conway Hall, Red Lion Square, W.C.1, on the afternoon of Thursday, April 4th, 1940, at which the provision of tea and light refreshments was a pleasing social feature.

There were also present: Miss M. L. Bingham, Messrs. W. Brown, H. S. A. Dunn, S. Gourley, Miss C. M. Ford, Lieut.-Colonel H. Greenfield, Dr. Tom Hare, Miss D. Howell, Mr. J. W. H. Holmes (Hon. Secretary), Mr. N. S. King, Mr. W. S. King, Lieut.-Colonel G. P. Knott, Mr. G. Dunlop Martin, Professor J. McCunn, Messrs. C. W. Ottaway, W. Perryman, C. R. A. Powell, C. Roberts, N. J. Scorgie, G. W. Searles, C. N. Thompson and T. L. Wright. Mr. F. A. Crowhurst, Dr. A. C. Fraser (Lambourn), Miss M. E. Hanman and Miss J. O. Joshua were present as visitors.

The minutes of the February meeting of the Society, which had been published in the *Veterinary Record*, of March 23rd, were confirmed and signed.

Correspondence.—(1) From the following Fellows apologising for their inability to attend the meeting: Professor J. Dalling, Major C. Davenport, Major H. Kirk, Major R. H. Knowles, Major Glyn Lloyd, Mr. J. W. Macintosh, Brigadier Murray and Mr. A. N. Worden.

(2) From Miss Moore returning thanks, on behalf of Lady Moore and herself, for the flowers and letter of sympathy sent from the Society on the death of her father, Major-General Sir John Moore.

Obituary.—The PRESIDENT said that since they last met the Society had suffered a sad loss in the death of Major-General Sir John Moore who, for many years, was an active member, although during the latter few years of his life he was stricken with illness. As the Secretary had intimated, a wreath and letter were sent from that Society, which was also represented at the funeral.

The meeting stood in silence for a few moments in tribute to the memory of Sir John Moore.

Continuing, the President said that an honorary member of the Society had been lost in the death of Sir Patrick Laidlaw with whom, as they would remember, Mr. G. W. Dunkin worked for the "Field" Distemper Research Fund. The members stood again in respect to the memory of the deceased.

MORBID SPECIMENS AND CASE RECORDS.

There being no nominations, the President invited contributions to this item on the agenda.

Mr. G. DUNLOP MARTIN said that he had rather an interesting specimen to show them which he removed *post-mortem* from a dog that day. It was

an eight-year-old terrier and it had been under his care for some time last year for an enlarged cyst on the left upper eyelid : to remove the cyst, he had to remove the eyelid *in toto*. The animal did very well, but it was brought to him a week previous to that meeting suffering from ear trouble. He had seen the dog again at his surgery two days previously. He found it had a temperature and, on seeking to ascertain the cause, he discovered that just behind the ribs there was a very abnormal thickness of the body extending far back, and he advised destruction. On *post-mortem*, he removed the specimen exhibited, which seemed to him to be a tremendous infarct in the spleen. That organ weighed about 6 lb., a remarkable fact when it was considered that the dog was an average size for his breed and weighed between 16 to 18 lb.

Lieut.-Colonel G. P. KNOTT reported upon a case of what he thought to be Hodgkin's disease in a fairly advanced stage, the superficial glands being much enlarged. He had looked up many books on the subject, but there was very little information in regard to treatment and he would like to know if anyone present could tell him what would be a wise course of treatment for the condition. He thought it had been treated some time ago with an iodine preparation. The dog ate well and if one examined the abdomen, one would find evidence of the glandular enlargement of which he had spoken.

Dr. TOM HARE expressed the view that the specimen shown by Mr. Dunlop Martin was due to haemorrhage into the splenic pulp, which was a very common phenomenon in dogs and was not necessarily related to any evidence of ill health. A probable explanation of a dog bleeding into the spleen was a temporary increase of blood pressure following some sudden exertion as in getting out of the way of a motor car. The lesion was not indicative of any organic disease.

Hodgkin's disease or leukaemia was incurable. Its cause was unknown. Cases might fluctuate ; the glands were liable to recede and then enlarge again, and that might deceive the observer of a particular line of treatment. He believed arsenic had been used.

Professor JAMES MCCUNN expressed agreement with Dr. Hare's view that most of the cases illustrated by Colonel Knott's report were incurable. He could, however, recall two or three cases in which recovery had taken place—whether as a result of medicinal treatment or not he did not know. For his part, he first of all put the patient on to arsenic, and he found that the best arsenic preparation was Donovan's solution. He started them with 2 minims and with due care worked up to 30 minims daily. He also gave raw liver and liver extract, and he had come to the conclusion that this mode of treatment was worth a trial ; he had one case under treatment at the moment that seemed to be holding its own. One case that had definitely made a recovery, was a dog from Colchester which had typical bilateral lumps all over the body, also an enlarged spleen. That dog was given Donovan's solution, which was worked up to 30 minims a day, with intermissions in treatment. It lived for three years. It appeared to recover completely and died as a result of a motor accident.

Leukaemia in dogs was not the same as Hodgkin's disease in the human. In his hospital days, when a man came in with Hodgkin's disease it was only a matter of waiting for the end ; he thought, however, that nowadays some cures had been effected with X-ray and liver therapy. It was Turnbull who. years ago, investigated Hodgkin's disease, and he believed he laid down the dictum that adenitis could not be Hodgkin's disease unless the reticulo-endothelial system was involved. Again, it was Sir John McFadyean who said that if it was necessary for the reticulo-endothelial system to be involved in order to say that an animal had Hodgkin s disease, no animal that he had ever met with had had true Hodgkin's disease.

Mr. DUNLOP MARTIN observed that it was very interesting to hear Colonel Knott's report of that case. He had had three cases running in three or four months —all in Aberdeen terriers and all fatal. Each one of these had been treated by other people and came to him in an advanced condition. He certainly thought, like Dr. McCunn, that in one or two cases which he diagnosed as Hodgkin's disease he had had recoveries under arsenical treatment. He thought, however, that if Donovan's solution was pushed to any extent one was very apt to get gastric trouble, and to overcome this difficulty he had used Arycil, which he had found very serviceable.

Dr. MCCUNN commented that he had seen more cases from Essex than from any other county, and it was his belief that one got more cases from the Eastern Counties than from any other part of the country.

Lieut.-Colonel KNOTT observed that in regard to treatment with Arycil, he was asked to see a case diagnosed at the Royal Veterinary College as Hodgkin's disease, which was then taken away and treated with Arycil. He saw it from then onwards and there was no sign of any enlargement of the glands. In another case the thyroid and gluteal glands were enlarged, and he treated that with glandones ; that was over two years ago and the animal had got no worse.

In reply to Miss Ford, who asked if they could be given some idea as to how long these cases took to recover, if they did, Dr. McCunn said " Six months, at least."

Dr. HARE stressed the necessity for establishing a diagnosis of leukaemia by means of a blood count and for differentiating adenitis due to infection by the beta haemolytic streptococcus which, in a small number of cases, involved all the lymphatic glands of the body.

The PRESIDENT—a reference having been made to haematoma of the spleen—said that it was quite common to find it in apparently healthy pigs slaughtered for food. In regard to leukaemia, it appeared that a great deal of investigation was required in respect to blood diseases of animals. So far as Hodgkin's disease was concerned, he had seen cases of leukaemia in calves which had been termed Hodgkin's disease. A few years ago the Americans claimed to have cured fowl leukaemia with vitamin E. Shanks in Northern Ireland attempted to cure fowl paralysis with vitamin E, given in the form of wheat germ oil, without success.

National Horse Association.—The PRESIDENT intimated that prior to that meeting the Council had met and had recommended that the Society should continue its donation of five guineas to the National Horse Association. The recommendation of Council in this matter was adopted.

Next Meeting.—The President stated that, according to the arrangement made at the commencement of the session, the next meeting of the Society would be held in June; on that occasion they were to have a paper from Miss Ford on Sepsis in Small Animals. At the Council Meeting to which he had referred, however, it was decided to ascertain the views of the general meeting on the suggestion that a meeting should be held in May, provided that a suitable subject could be found for discussion and a suitable author for its presentation.

It was unanimously agreed to hold a meeting in May provided these requirements could be met. After further discussion, the view found favour that the next meeting should be of a clinical nature, with special reference to the use of drugs of the sulphonamide group. It was further agreed that, in future, the meetings be held immediately following tea, to be provided at 4 o'clock.

Paper.—The President now called upon Mr. T. L. Wright to present his paper, "Some Comments on Equine Specific Ophthalmia."

Mr. Wright's paper was heard with much appreciation and produced an interesting discussion, which was opened by Dr. A. C. Fraser, of Lambourn.

In proposing a hearty vote of thanks to Mr. Wright, Professor McCunn, while saying that he did not take part in the discussion because he felt he could not add anything useful to it, said that he had been surprised that no one had mentioned one of their own people, Professor Dalling, who, in 1919, published an article in which he recorded having recovered an organism from the optic nerve in cases of equine specific ophthalmia. He (Dr. McCunn) had forgotten the type of organism recovered. Those who wished to read the account of this investigation could refer to the *Veterinary Journal*—in the latter months of 1919.

On behalf of the Society he proposed a very hearty vote of thanks both to Mr. Wright for his most interesting paper, and to those who had taken part in the discussion.

The vote of thanks was carried with acclamation, and the meeting terminated with an expression of appreciation of the President's conduct of the proceedings.

J. W. H. Holmes, *Hon. Secretary.*

GERMAN PIG PRODUCTION

"For the last four or five years Germany has been consistently increasing her pig population," writes 'Blythe,' in the *Farmer and Stock-breeder.* "At the last census, on December 3rd, 1939, the total number of pigs was 24,830,000, an increase of 5·3 per cent. on the previous year. The point that interests me is that of this number the sows form only 7·4 per cent. In December, 1938, they were 7·8 per cent., while the figure for this country at the same date was 11·6 per cent. This means, of course, that in Germany feeding pigs are kept much longer and to heavier weights than here, and this is confirmed by the fact that the figure for feeding pigs from eight weeks to six months old is 10,380,000, while for those over six months it is actually 7,650,000. In this way the risks and overhead charges connected with breeding are reduced to about a half of what they are with us, and the heavier pigs can deal very much better with roots and home-grown food generally."

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

May 30th.—Last date for receipt of R.C.V.S. Council Election Voting Papers.
May 31st.—Meeting of the South Wales Division, N.V.M.A., at Tenby, 2.15 p.m.
June 3rd.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 4 p.m.
June 6th.—**R.C.V.S. Annual General Meeting.** Victoria Veterinary Benevolent Fund Annual General Meeting.
June 6th.—Meeting of the Central Division, N.V.M.A., at the Conway Hall, W.C.1, 4 p.m.
June 14th.—Meeting of the Mid-West Division, N.V.M.A., at Bristol, 2.30 p.m.
June 20th.—R.C.V.S. Committee Meetings.
June 21st.—R.C.V.S. **Council** Meetings.
June 27th.—R.C.V.S. Written Examinations begin.
July 3rd.—Provisional date for commencement of R.C.V.S. Oral and Practical Examinations.

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The Veterinary Profession and the Volunteer Defence Force

In connection with the newly-instituted Volunteer Defence Force, we would point out that the vast majority of practising veterinary surgeons are engaged in National A.R.P. for Animals Committee work and many are, in addition, at the call of the Ministry of Agriculture and Fisheries in connection with their Panel A duties, while there must be borne in mind the requirements of urgent cases in practice. It is feared that few veterinary surgeons, in view of the above considerations, will be able to make the necessary arrangements to volunteer for the new force, which, we understand, requires the observance of fixed hours.

* * * * *

National A.R.P. for Animals Committee

Notice

Many members of the profession as well as technical personnel now enrolled under the National A.R.P. for Animals Committee, may have the intention of offering their services to the Local Defence Volunteer scheme.

It is, however, considered inadvisable that they should do so, for the duties devolving upon this force will be both periodic and exacting; moreover, the demands of the National A.R.P. for Animals Committee will almost inevitably clash with the calls of the Defence Force.

. . . . .

Ministry of Home Security and the National A.R.P. for Animals Committee

The following letter has been circulated to veterinary officers co-operating with the Committee and is now published for the information of our readers. The circular invites the co-operation of local authorities and A.R.P. officials and it is hoped that this communication will do much to weld into a compact whole the various bodies entrusted with the development of A.R.P. measures.

A somewhat similar circular has been issued to all Police Authorities throughout the country.

MINISTRY OF HOME SECURITY,
AIR RAID PRECAUTIONS DEPT.,
HORSEFERRY HOUSE,
THORNEY STREET,
LONDON, S.W.1.

H.S.C.91/40.
J.2.

May 15th, 1940.

SIR,

Home Security Circular No. 91/1940

Animals in War Time

CO-OPERATION

I am directed by the Minister of Home Security to refer to A.R.P. Department circular No. 267/1939, on the subject of the duties undertaken by the National A.R.P. Animals Committee (N.A.R.P.A.C.) in connexion with animals in war-time, and to say that the Minister desires again to emphasise the need for close co-operation between local authorities and the local representatives of N.A.R.P.A.C. He thinks it desirable that local authorities should make themselves acquainted with the arrangements which have been made for assistance to be given by N.A.R.P.A.C. in dealing with animal casualties and for the protection of the public in their area, and in particular to ensure that all wardens are familiar with the names and addresses of the local N.A.R.P.A.C. representatives and posts in their district, so that information can be passed in appropriate cases to the N.A.R.P.A.C. officers with the minimum of delay (other circumstances permitting). If there is a N.A.R.P.A.C. post in the immediate vicinity or a N.A.R.P.A.C. officer close at hand, the warden should pass his information direct, but in all other cases he should report to the Report Centre. Instructions should be issued to Report Centres as to the action to be taken on receipt of information from a warden of animal casualties in his area, but it is suggested that in those Report Centres in which there is a Police Liaison Officer, he might be the channel through which N.A.R.P.A.C. personnel are summoned.

It is also suggested that when local combined exercises are held, the opportunity should be taken to practise the machinery for co-operation with N.A.R.P.A.C. with such frequency as may be necessary to ensure its smooth working in time of raids.

DISPOSAL OF CARCASES

2. I am also to say that except in so far as animals suitable for food are concerned (*i.e.* cattle, sheep and pigs), N.A.R.P.A.C. will not be expected to undertake the removal of the carcases (contaminated or otherwise) of animals killed on the highway as the result of enemy action. This duty will be the responsibility of local authorities, but any existing arrangements whereby the police secure the services of knackermen, etc., to remove uncontaminated carcases, will no doubt continue. Local authorities should also make their own arrangements for the removal and disposal of contaminated carcases, subject to collaboration with N.A.R.P.A.C. in the case of contaminated carcases of food animals.

3. Where food animals are killed or require to be slaughtered as the result of enemy action, it is essential that every endeavour should be made to ensure their fitness for human consumption. N.A.R.P.A.C. will therefore assist whenever possible by slaughtering, bleeding the carcases and removing them to the nearest slaughterhouse or other suitable building. Any action taken by N.A.R.P.A.C. in this connexion will be notified immediately to the District Chairman of Auctioneers appointed by the Minister of Food, who will take the necessary action to ensure the proper utilisation of the meat. N.A.R.P.A.C. will also give notice to the appropriate local authority under the Public Health (Meat) Regulations, 1924, or in Scotland to the local authority or meat inspector in accordance with the Public Health (Meat) Regulations (Scotland), 1932.

TRANSPORT

4. I am further to say that the arrangements referred to in A.R.P. Department circular No. 267/1939 as having been set up for the evacuation areas have now been extended to cover the whole country. To deal with animal casualties, first aid posts have been established in most of the large towns and the rest of the country is covered by a series of mobile units which, located in various towns, will be available for service in the areas allotted to them. Each unit consists normally of a veterinary surgeon with three or four assistants, and possesses equipment to enable the necessary measures to be taken to protect the public from panic-stricken and gas-contaminated animals, as well as to render first aid to injured animals.

Difficulties have, however, been experienced by N.A.R.P.A.C. in securing an adequate supply of vehicles to transport the mobile parties to the scenes of casualty incidence. Where representations are made to local authorities by the Regional Organisers of N.A.R.P.A.C.* to the effect that certain units are deficient in transport, the Minister would be glad if local authorities would bear these requirements in mind, so that in an emergency, or on the occasion of an important exercise, cars which are not required for Civil Defence purposes, or have become available after duty, may be placed at the disposal of the N.A.R.P.A.C. Regional Organiser.* It is not anticipated that any local authority will be asked to provide more than a few cars. It should be emphasised that assistance in securing transport is only required in respect of the personnel of the mobile units, and is not needed in connexion with the conveyance of injured animals, for which N.A.R.P.A.C. must make their own arrangements.

The Minister is anxious that the successful working of the organisation which has been set up for dealing with animal casualties should not be jeopardised by lack of transport, and he is confident that he can rely on local authorities to render all the assistance they can in this connexion. It is not expected that local authorities will make any charge for use of these cars, but N.A.R.P.A.C. will be prepared to pay whatever mileage rates have been agreed upon between local authorities and the car owners.

I am, Sir,
Your Obedient Servant,
H. EMMERSON.

Issued to all scheme-making authorities in England, Wales and Scotland, outside the London Civil Defence Region.

Copies sent for information to all other local authorities in England, Wales and Scotland, outside the London Civil Defence Region.

GEN.100/8.

* " Regional Organiser(s) of N.A.R.P.A.C." : *This should read* " Regional Veterinary Officer(s) of N.A.R.P.A.C."

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Veterinary officers assisting the National A.R.P. Animals Committee are asked to return crates and other empties to the Sanatorium at Ilford at once. Despatch of supplies is being held up through shortage of these essentials, as wood cannot be secured for making new ones.

Should any veterinary surgeon assisting the National A.R.P. Animals Committee not have received requisition forms for supplies and application forms for registering himself and his technical personnel as members of the Civil Defence Organisation, he is asked kindly to notify the Headquarters of the Technical Branch at 36, Gordon Square, W.C.1.

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R.C.V.S. OBITUARY

AULTON, Frank, Clonmel, Burton Road, Derby. Graduated London, April 10th, 1888. Died May 7th, 1940, aged 74 years.

Branford, Richard, Kot Branford Stud, Lyallpur, Punjab, India. Graduated London, December 16th, 1905. Died December 15th, 1939.

Sturgess, George William, I.S.O., of Thurnby, near Leicester, and Horton Place, Colombo, Major, late Ceylon Defence Force. Graduated Edinburgh, December 21st, 1892. Died April 23rd, 1940; aged 68 years.

Mr. R. Branford, M.R.C.V.S.

Information, which we received with great regret, has reached us that Mr. Richard Branford, M.R.C.V.S., died in India in December last as the result of a railway accident.

Richard Branford joined the Indian Veterinary Service in the year 1907 and, after holding several appointments, settled down as Superintendent of the Government Cattle Farm at Hissar, where he remained until his retirement some ten years ago. He did excellent work in that capacity and was well known as an expert in animal husbandry and a good judge of Indian cattle.

After retirement Branford took up land in the Lyallpur Colony, Punjab, and set up a mule breeding establishment. A colleague writes: "Richard Branford had many friends in his own service and outside it who fully recognised his sterling character and great honesty of purpose. His untimely death will be greatly regretted and much sympathy extended to his widow and children by all who knew him."

Major G. W. Sturgess, I.S.O., V.D., M.R.C.V.S.

Major Sturgess, whose death, which we record with deep regret, occurred at his residence, "Struan," Horton Place, Colombo, on April 23rd, 1940, was born at Billesdon, Leicestershire, on September 4th, 1871. His father and his grandfather before him had practised as veterinary surgeons in Leicestershire.

He qualified in December, 1892, from the Royal (Dick) Veterinary College, Edinburgh, after a brilliant career as a student, winning six of the silver class medals at that College. Among his contemporaries were the late Sir Stewart Stockman, Colonel R. J. Stordy and Mr. W. Hall Masheter. He completed the course before he was 21 years of age and had to wait some months before taking the final examination. During that interval his father died and he carried on his father's practice at Billesdon as soon as he had qualified.

In 1895 he was appointed Government Veterinary Surgeon, Ceylon, and arrived in the island on March 1st of that year. At that time there was no Veterinary Department in Ceylon and he was attached to the Department of Public Instruction. Sturgess set himself to the task of establishing a Veterinary Department and saw his efforts crowned with success in 1900. He continued in charge of the Department until his retirement in 1931, a period of over 36 years' service, which possibly constitutes a record for the Colonial Veterinary Service. During this long period he saw the Veterinary Department grow from one man, himself, to an efficient organisation with its own offices and laboratory.

Scientifically his name will always be associated with his studies of osteitis fibrosa of horses, which culminated in the experimental proof that this condition was caused by a deficiency of calcium in the diet, generally aggravated by an excess of phosphorus.

He was a member of the Ceylon Mounted Rifles until 1931, first as a Trooper and then for many years a Veterinary Officer, retiring with the rank of Major. In 1900 he proceeded to South Africa in charge of the horses of the Second Ceylon contingent to the Boer War. He landed his horses safely at Cape Town and after taking them up to the front he spent some time in South Africa studying the then new methods of protecting cattle against rinderpest by means of bile vaccine and serum. During that time he was associated with the late Mr. Hutcheon.

Major Sturgess was prominently connected as member and veterinary officer and judge with the Ceylon Turf, Kennel and Poultry Clubs; also with the Society for Prevention of Cruelty to Animals.

When he retired in 1931 he went to Kenya and spent some months there with his son before returning to his home in Leicestershire. He found a life of retirement in England rather irksome and in December, 1935, he returned to Ceylon and engaged in private practice until a few weeks before his death.

His kindly and courteous nature, his unswerving integrity, and the meticulous manner in which he dealt with any duty entrusted to him had made him known and respected throughout Ceylon. The funeral, which took place on April 24th at the General Cemetery, Colombo, was very largely attended by all classes and communities in the Island. The following members of the Royal College were present at the funeral: Capt. J. E. Barnes, Mr. M. Crawford (son-in-law), Capt. R. J. Little and Mr. T. M. Z. Mahamooth.

Major Sturgess leaves a widow, two sons—Dr. G. W. Sturgess of Wigston Magna, Leicestershire, and Mr. R. H. C. Sturgess, N.D.A., of Market Rasen, Lincolnshire—and two daughters—Miss M. Crawford, wife of the Government Veterinary Surgeon, Ceylon, and Miss V. Sturgess, of the John Innes Horticultural Institute, Wimbledon.

Mr. Matthew Crawford, M.R.C.V.S., Deputy Director (Animal Husbandry) and Government Veterinary Surgeon, Department of Agriculture, Ceylon, writes of his father-in-law: "Major George William Sturgess was my chief for many years and throughout his exceptionally long service in Ceylon he did much to enhance the prestige of our profession. He kept in touch with all new developments right up to the time of his death. I think this desire to keep abreast of scientific thought must have been first inspired in him by Sir John M'Fadyean, who was his teacher at Edinburgh and of whom he often spoke."

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GENERAL OBITUARY

Major H. P. G. Maule

We record with much regret the death, which took place on Wednesday of last week, of Major H. P. G. Maule, D.S.O., M.C., F.R.I.B.A., who collapsed and died while driving his car at King's Langley. Major Maule, who was 67 years of age, was the distinguished architect who held the post of headmaster of the London Architectural Association School of Architecture from 1903 to 1913, and was the architect of the new buildings of the Royal Veterinary College, London, opened by their Majesties King George VI and Queen Elizabeth on November 9th, 1937.

Major Maule served in the last war from 1914 to 1918, was three times mentioned in dispatches, and received the M.C. and D.S.O. In 1919 he became chief architect to the Ministry of Agriculture and Fisheries, but returned to private practice in 1923. He was architect to the trustees of the Douglas Haig Memorial Homes for Ex-Soldiers, and carried out schemes on their behalf at Birmingham, Newcastle, and other places. He was also responsible for the design of various school buildings and research stations.

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LEGAL NOTES

Bogus "Veterinarian" Imprisoned.—Stated to have been deported from Canada, Michael Mullally, aged 35, described as an unqualified veterinary practitioner, of 32, Sternhold Avenue, Streatham, was sent to prison for two months at the North London Police Court on May 3rd, when he pleaded guilty to having obtained £1 11s. 5d. from Belfranke Syndicate, Ltd., at Seymour Street, W.C., by false pretences.

The *South London Press* reports that it was stated that Mullally sold a woman a weak solution of acetic acid, which he said would remove warts from her dog, and sold a weak solution of bromide to a man, saying it would send his dog to sleep during air raids. "Mullally had said he came from the Royal College of Veterinary Surgeons. Mullally went to Belfranke Syndicate, Ltd., and obtained board and lodgings, giving a worthless cheque on which he received £1 11s. 5d. change.

"Mullally had five previous convictions in Canada and Ireland."

. . . . .

Unqualified Operator Fined.—Miss Rose Drake, proprietress of the Animal Clinic, Cowley Road, Oxford, appeared before the Oxford City magistrates recently, summoned for causing cruelty to a cat on March 13th.

She pleaded "Not guilty" through Mr. Maurice Cole.

Mr. Gordon Jones prosecuted on behalf of the Royal Society for the Prevention of Cruelty to Animals.

It was stated that the summons was a sequel to an operation on a cat which, it was alleged, was performed "without due care and humanity."

After a long hearing, during which two veterinary surgeons, in evidence, expressed the opinion that the cat—an adult which died some days after castration—had suffered as the result of the unskilful performance of the operation, the Bench imposed a fine of £7 with £6 6s. costs.

. . .

Stud Farm Owner's Claim Against the Ministry of Transport.—Evidence to the effect that noise caused by pile drivers and mechanical excavators on the new Maidenhead by-pass was responsible for breeding losses at a racing stud owned by Sir Hugo Cunliffe-Owen at Bray, was given before Sir Hugh Webster, an official arbitrator, who (on May 7th) was considering a claim by Sir Hugo Cunliffe-Owen against the Ministry of Transport for £8,000 as compensation among other things, for losses on the Weir Bank Stud Farm.

It was stated that the Ministry acquired 14 acres of the stud farm and that certain items had been settled for £12,000.

Mr. Craig Henderson, K.C., for Sir Hugo, said the Ministry took possession of the land in 1938. The stud farm had been highly successful, and for twelve years up to 1938 it had produced 80 winners of 144 races of £86,243 stakes value.

In evidence Sir Hugo said that in 1930 he decided to separate breeding from racing and formed a company, Weir Bank Stud, Limited, of which he had complete control.

The foaling season 1939 to 1940 was the worst in the history of the farm. A great deal of noise was caused by the work on the by-pass, which was detrimental to the stud, because mares had to be kept as quiet as possible.

Mr. W. C. Miller, a member of the Royal College of Veterinary Surgeons, called on behalf of the Ministry, said that he did not think the noise, which was at some considerable distance from the buildings of the stud, was the conclusive cause of the fall in production at the stud. Other factors which might well be responsible for the poor breeding results were differences in the mares themselves, or in the stallions, environment, weather, and nutrition.

The disturbance experienced by thoroughbreds when travelling in railway boxes might be far worse than pile driving.

Mr. Andrewes Uthwatt, for the Ministry, submitted that the mere existence of noise in the vicinity of the farm was not proof that any of the animals had suffered.

The findings of the Arbitrator were reserved.

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A farmer in the Kirkcaldy district was fined £5 for failing to provide an aged horse with reasonable care and attention. The Sheriff said that personally he felt that imprisonment was the only punishment fit for anyone found guilty in such a case.

Royal College of Veterinary Surgeons

ANIMAL MANAGEMENT EXAMINATION

List of Successful Candidates

London

Adams, Miss M. A.*
Ahmad, S. M.
Arseneault, J. H.
Baylis, Miss E. E.
Blunt, M. H.
Brain, P. G. P.
Brown, K. E.
Builder, Peter*
Carter, C. R.
Clover, R. H.
Crabtree, G. E.
Davies, D. G. E.
Day, K. S. J.
Fawcus, E. W.
Franklin, R. D.
Griffiths, W. R.*
Groves, T. W.
Harrison, P. D.*
Hawkins, J. D.
Hayward, A. H.
Herbert, T. G. G.*
Irvine, J. G.
Kelsey, F. H.
Linzell, J. L.*
Macadam, Ian
Macqueen, J. M.
Millar, A. M.
Moore, T. D.
Morgan, J. B. D.
Mortimer, D. T.*
Newsholme, C. M.
Reed, S. R.
Reffell, A. H. D.
Richter, W. A. G.
Smith, G. J. E.
Tayler, R. C.
Tyler, Miss A. I.
Walker, D. A. W.
Ward, V. C.
Watson, C. B.
Willis, E. O.*
Wills, Miss B. S.
Yockney, G. L.

* Denotes credit.

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RED CROSS AGRICULTURE FUND

The following is an extract from a communication received from the Press Department of the above Fund: "Your readers will be gratified to learn that the Red Cross Agriculture Fund is making excellent progress and has collected £3,042, thanks to the generosity of the Press and the National Farmers' Union; breeders of pedigree farm stock, dogs, poultry, pigeons and cage birds; allotment cultivators, amateur gardners and horticulturists; transport and agricultural workers; milk producers and cheese makers; auctioneers, chartered surveyors and land agents; young farmers' clubs; agricultural show secretaries; flower show and pony gymkhana promoters, and veterinary surgeons. Another point which may be of interest is the fact that the Publicity Committee and the Ideas Committee of this Fund are composed mainly of working journalists interested in agriculture and allied industries."

* * * * *

FAT STOCK GRADING IN NORTHERN IRELAND

In Northern Ireland all the grading of fat stock is done by civil servants, namely, members of the staff of the Veterinary Department of the Ministry of Agriculture; and the Ministry itself acts as purchasing agent for fat stock on behalf of the British Ministry of Food. The head of the Ministry's Veterinary Department is Mr. James M'Allan, M.A., B.Sc., M.R.C.V.S.

There are in all 66 purchasing centres throughout Northern Ireland and roughly 100 purchasing days per month. From those purchasing centres cattle destined for slaughter and consumption in the home market are sent to 17 approved abattoirs, which, in turn, are also under the management of the veterinary officers of the Ministry. Since Northern Ireland is an integral part of the United Kingdom, the home requirements are decided strictly in accordance with the rationing scheme, and all cattle and sheep surplus to those requirements are shipped to Great Britain. The Northern Ireland farmers receive exactly the same prices for their livestock as the farmers of Great Britain.

CORRESPONDENCE

THE "RESERVATION" OF THE PROFESSION

To the Editor of the Veterinary Record

Sir,—That it is essential in the present emergency to utilise the resources of the country to the fullest extent no one will deny, but I cannot agree that the proposal put forward by Mr. Beckett in his letter of the 6th inst. leads to that goal.

So long as: (a) thousands of food animals are allowed to die each year, without receiving skilled veterinary attention; (*b*) it is necessary for A.R.P. for animals to be largely dependent on the voluntary part-time service of members of the profession—there would appear to be small reason for objecting to the policy of the R.C.V.S. and N.V.M.A. with regard to reservation.

Yours faithfully,

John C. Grant.

The North of Scotland College of Agriculture,
Veterinary Department,
Marischal College, Aberdeen.
May 14th, 1940.

* * * * *

BOVINE STERILITY

To the Editor of the Veterinary Record

Sir,—Mr. Hignett's reference to functional sterility in Guernsey heifers will, I think, be subscribed to by those of us who come into contact with this particular breed of cattle; and during the past three years, by far the greatest proportion of cases of sterility that I have encountered, have been in Guernsey cattle. It would be of interest to know if those who have a wider field than myself can agree or disagree.

It would not seem to be beyond the range of possibility that, unless some radical change is made by the breeders, in time this breed may be threatened with extinction. There appears to be little doubt that with in-breeding and too much "coddling," the stamina has been seriously reduced: such, at least, is my own opinion, based on personal experience.

The whole question of sterility, like that of other diseases, urgently calls for an interchange of views and a collaboration between the practitioner and the laboratory worker; in the case of mastitis, some service is urgently needed to enable the examination of milk samples, the rapid identification of the causal organism and the equally rapid administration of the best agent to destroy it.

Yours faithfully,

J. F. D. Tutt.

Winchester.

* * * * *

COPROPHAGY BY THE RABBIT

To the Editor of the Veterinary Record

Sir,—E. L. Taylor, in your issue of May 11th, ignores my request that he would endeavour to harmonise his claim that his experimental animals were *healthy* rabbits with his protocols, which record that at least some of the rabbits were infected with coccidiosis. The embarrassment of beng impaled on the horns of this dilemma was appreciated by another anonymous poet, whom I seem to recall having said:—

"E. L. T. is very funny
In stating that a normal bunny
Enjoying health and merriment
Always eats its excrement.
To claim this for the Weybridge rabbits
Does not surprise us, since their habits
Must conform with expectations
And civil service regulations."

I have the honour to be, Sir,
Your obedient servant,

Tom Hare.

Veterinary Research Laboratories,
London, N.W.3.
May 18th, 1940.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT OF 1937 (PART IV)

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic§ Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 16th to 30th April, 1940	31	37	1	31	—	1	4	170	104
Corresponding period in									
1939	34	36	—	—	4	10	2	87	58
1938	43	46	7	942	1	1	3	23	23
1937	50	53	—	—	6	9	2	39	27
Total 1st January to 30th April 1940	214	233	18	2,548	11	25	105	1,296	686
Corresponding period in									
1939	338	362	29	4,357	25	52	142	492	305
1938	356	375	148	19,321	37	59	88	140	97
1937	268	302	3	262	68	103	111	398	229

Note.—The figures for the current year are approximate only.

§ Excluding outbreaks in Army Horses.

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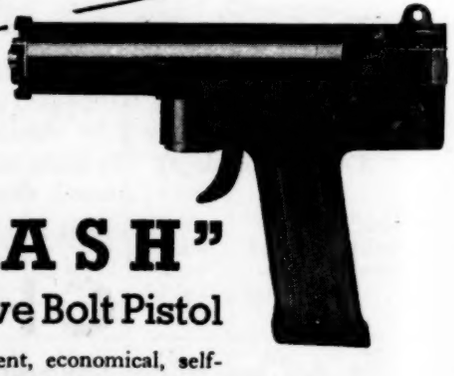

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